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WORKING IN THE DARK

RECENT years have seen a considerable intensification of interest in health education, and the volume of work now being carried out in this direction is impressive. As Dr. Stephen Taylor points out,* however, we cannot plan our work on a really scientific basis until we know a great deal more than we do at present about the attitude, prejudices and interests of the public for whose benefit this education is intended.

In the field of technique also much yet remains unknown. How effective are Press campaigns in instructing the public and altering its habit-patterns? What are the relative values of film and film-strip,of pamphlet and poster, of radio and lecture? The only answer is the negative one—we do not know. When research has provided a positive answer, we may well find that many pre-conceived notions have to be discarded and completely new plans drawn up.

Health education is still a largely virgin field, and there is ample room and real need for research and experiment. In this work, close collaboration between medical and educational experts will be essential. It is this collaboration which makes the account of Luton's experiment† in health education particularly encouraging. This "intimate collaboration between the two departments," with "a proper understanding by each of the functions of the other and the avoidance of improper encroachments" should prove most fruitful.

Besides the investigations of the Wartime Social Survey, some of the necessary experiment and research can be carried out by the Central Council itself; but that does not lessen the need for similar work by others. American health education literature makes it clear that, in that country, not only do central agencies do much valuable work along these lines, but so do State and City education authorities, and even individual colleges and schools. There is, it is true, a trickle of reports of such investigations in this country. In our last issue an account was given of an experimental course in a large boys' school, while the teachers of Darlington have for some time been engaged in the formulation of syllabuses for health education at all stages of formal schooling. But where are the English studies comparable to those of the National Education Association of the United States and of other American Federal, State and voluntary agencies? So far as we know, they do not exist. And until they do exist, health education in Britain will be carried out by people working very largely in the dark.

* See page 54. † See page 88.

TOWARDS UTOPIA

By Edmund Martin, M.D., D.P.H.
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The Expectation of Life

Year by year, as civilisation advances, the average duration of human life is increasing. Two hundred and fifty years ago, when Edmund Halley the astronomer first investigated the subject, the average age of death was found to be approximately thirty-five years, and a century ago the more accurate figures of the Registrar-General showed that there had been but slight improvement. In contrast the most recent figures for England and Wales indicate that to-day the average duration of life is in the region of sixty years.

No doubt the senile degenerative changes associated with old age would make an excessive prolongation of life of little advantage either to the individual or to the community as a whole, but nevertheless it must be remembered that there is still a relatively large proportion of infants born into this world who for various reasons die during infancy, childhood, or early adult life. In round figures, of every thousand children born, death will overtake fifty during the first year of life and one-quarter will fail to reach the age of forty-five. Death in the aged may be regarded with equanimity, and with a sense of the inevitable, but each life lost prematurely represents a family tragedy in greater or less degree; an infant life cut short, the loss of a promising schoolboy or schoolgirl, or perhaps most tragic of all, of a parent in the prime of adult life who can ill be spared from family responsibilities.

The Prevention of Premature Mortality

The trend of modern humanitarian thought is towards the preservation of every possible life and the maintenance of every individual in the best state of health. It is not unprofitable therefore to review our present knowledge of the chances of life, and to consider the problems which must be solved if we are to approach a Utopia where every infant would be given the greatest chance of survival, and where apart from the hazard of accident every child would be able to look forward with security and confidence to a reasonable duration of life.

How may this wastage of infant and young adult life be prevented? We think at once of triumphs of medical and surgical skill, of dread diseases conquered by new discoveries, and of improved methods of treatment. These most certainly play their part, but a study of the statistics of premature death in children and young adults reveals the remarkable fact that the im-

perfections of medical science are not the main causes. They are far outweighed by social and environmental factors.

Consider, for instance, the first year of life and that average of fifty infants who die out of every thousand births. It is a well-known fact that if we had selected our thousand children from the slums of our great cities, or from the lowest social classes in our depressed areas, then instead of fifty the number would have been well over a hundred. On the other hand, if we had selected a wealthy suburban area, or infants born to the upper social classes, then out of the thousand births, the number of deaths might have been as low as twenty.

We Can Buy Human Lives

Now if we analyse the fifty infant deaths, we find that less than twenty were really unpreventable and due to conditions such as congenital deformities, birth injuries, extreme weakness or incurable diseases. The remainder of the deaths are due to social environment, to absence of sufficient skill, to ignorance, poverty, neglect and bad environment.

As with infants, so with older children. The proportion dying from incurable disease is small, but the number dying from measles, whooping-cough, diphtheria or acute rheumatism is large and each of these strikes with the greatest force and highest mortality those children of the lower social classes who are malnourished and in whose homes there is overcrowding and an absence of adequate facilities for nursing the sick and ailing.

With young adults also, incurable disease is rare, but tuberculosis, pneumonia and bronchitis wreak their greatest havoc amongst the working classes. The labourer with a large family, however wisely he plans his budget, often has insufficient wages to keep himself and his family above the minimum standard of living for the maintenance of perfect health. When he is ill, he has a subnormal resistance to combat the disease; and his whole environment, education and capabilities place him at a disadvantage in making the best use of such medical knowledge as is available to cure his illness. The working man's wife traditionally just cannot allow herself to be ill, and with her house and young family there can be little of that peace of mind so necessary to a speedy recovery should she have to retire to bed on account of illness.

Without doubt, medical research must continue and indeed receive every encouragement from the State, but we must also remember that if the ravages of disease are to be reduced to a minimum, it is essential that social factors should receive their proper share of attention.

Over heredity we have little control. Doubtless if human beings were bred after the manner of pedigree racehorses, an exceptionally fine nation might

be reared, but attempts along such lines would curtail personal liberty to such an extent that they would be foredoomed to failure. There is, however, much that can be done by means of advice and birth control in those cases where there are known to be strains of hereditary disease or weakness.

Environment is perhaps the easiest factor with which to deal. For the past twenty-five years problems of housing, overcrowding and out-of-date school buildings have been gradually reduced, but more vigorous progress is needed in the future. Industrial environment is a problem which remains almost untouched, yet the number of people who have their health impaired by working in small, overcrowded, unheated, dark or insanitary workshops is by no means negligible.

Health and Social Factors

Adequate health and social services are slowly maturing. Although it was established thirty years ago, the panel system does not yet cater for wives and dependants, the medical services in some areas are woefully deficient, and even though hospital beds may be sufficient, the supply of consultants and facilities for special examination and treatment are very ill distributed and often are only obtainable promptly by grievous depletion of the family savings. When in hospital the father or mother will not rest contented if the family income is in jeopardy, or the children uncared for.

Poverty is the factor which at present receives the most consideration. It has been shown, quite conclusively, that with many occupations the standard rates of pay are inadequate for a workman to provide a sufficiency of the essential food, housing and clothing to maintain a large family in good health. General increases in wages would merely create a vicious circle by causing a rise in the cost of living, and the only satisfactory answer is the adoption of children's allowances and of adequate sick and unemployment pay, proportionate to the size of family.

Ignorance and Lack of Ability

The old proverb of leading a horse to water and then being unable to force it to drink, is painfully true when dealing with the least educated classes of the community. The environment may be satisfactory, poverty abolished, and all the necessary medical and social services may be present, but the most important factors are the human elements—ignorance and lack of ability. Neither have as yet received much attention, yet together they are among the most important causes of ill-health and are responsible for a large proportion of suffering, disease and premature death.

At school the average child of to-day is taught to think in a logical manner and acquires a highly diverse and specialised knowledge, yet the teacher would stand aghast if he knew how much is subsequently forgotten.

Education should be essentially a preparation for adult life. The intelligent child, whatever he may be taught, learns to search for information so that, aided perhaps by a good home influence, the more practical problems of adult life are more easily solved. Yet without definite instruction, curious gaps are sometimes found in the practical knowledge of the most intelligent person. The college-trained girl does not always make the most practical mother. At the other extreme, the dull child presents a far more difficult problem. Complicated instruction is relatively useless, for much of what is learned will be forgotten in after life unless it is of immediate practical value. Notwithstanding this, surprisingly little attention is paid to the teaching of infant care, parentcraft, and housewifery, and to elementary health education. It is, of course, often argued that the child should learn these subjects at home, but only too often the children who are most in need of instruction are also those who have the least satisfactory homes.

A Vital Duty

Detailed social surveys have shown that while the general standard of civilisation of the country as a whole has improved during the last thirty years, there has been no diminution in the numbers or improvement in the standards of the families at the bottom of the social scale, whose standard of living and whose health record is appalling.

It is evident that considerable extensions are necessary in the school curriculum of domestic subjects. The less intelligent the child, or the less satisfactory the home conditions, the greater is the need for instruction which is practical in nature and of a type which will create interest.

The most fundamental biological law is that governing the propagation of the species. If young adults are to be expected to play their part to produce a nation which is healthy and virile, it is the most vital duty of the country as a whole to ensure that as far as possible they have the knowledge, training and background to carry out their family responsibilities efficiently.

BIOGRAPHICAL NOTES

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THE AUDIENCE IN HEALTH EDUCATION

By Stephen Taylor, M.D., M.R.C.P.

The teacher, in school or university, seeks to test from time to time by formal or informal examination the progress which his class has made, and the volume of information he has succeeded in imparting. The wise teacher does something more. He studies his pupils in advance, both to find out how much they know, so that he may avoid unnecessarily teaching them to suck eggs, and also to discover their capacities for absorbing knowledge. A preliminary test examination should answer the first part of the question; the second and more important part calls for detailed individual interviews, supplemented if possible by intelligence tests. If he is to do his job properly, the teacher must cut his coat according to his cloth, his cloth being the intellectual capacity of his pupils.

The situation in formal education presupposes either compulsory attendance at school, or, in the case of higher education, a desire for knowledge either for its own sake or for the sake of getting through examinations. Thus the pupils co-operate, willingly or unwillingly, in the tests which the teacher applies. With adult education, the teacher is there at the invitation of his class; he must hold them by his own skill; and he cannot submit them to the same rigorous treatment that he would a University class. Against this, he has the one great advantage—they are there because they want to learn, and for no other reason. The health educator, addressing directly a freely assembled audience, whether of young mothers, first-aid workers, nurses, or even the general public, can at least be sure his audience will meet him a quarter or even half-way.

But the lessons of health education must not be confined to the enthusiasts. Preaching to the converted is not a very profitable business. For every five who attend lectures and classes, there are ninety-five who do not, and it is precisely such people who stand in greatest need of health education. Direct personal contact is a most powerful method of education, but its scope is likely always to be limited. So the health educator has to study the new methods of mass education, which applied science has made available. The oldest of these is the printed word, supplemented or even supplanted in some cases by the printed picture. The book and pamphlet, newspaper and leaflet, poster and diagram each has an important and specialised function, and technique of production. Their new rivals, the radio, the cinema, and television have parts to play. Even the public meeting itself is developing along new lines; and discussion groups, study circles, and brains trusts are converting the passive process of assimilation into an active and vigorous

affair in which the learner is no longer only a recipient. Finally, these techniques may be used in combination. A film may draw the audience a speaker needs. The speaker may supplement his talk by distributing pamphlets. The radio discussion circle may be helped in its listening by a pamphlet. And so on.

What of the public at whom all this battery of information is being aimed? Do they profit from it? Are they confused? Can they distinguish the Patent Medicine Man's partisan advice from the disinterested wisdom of the Central Council for Health Education and the Ministry of Health? What, in fact, do they already know, and what do they want to know? What are the obstacles in their road to knowledge? No amount of *a priori* reasoning will provide answers to these questions. The only way to find out is to go to the public themselves.

Market Research and Commercial Publicity

The disinterested educator is not the only person at work in the field of mass information. The commercial advertiser is equally concerned to bring the merits of his client's products to the notice of all potential buyers. In pursuit of these aims, advertising firms have developed the technique of market research. Its aim is not only to discover the potential market for the product in question, but also to find out who has seen, read, or been influenced by the advertisements commending it. The method employed is essentially that of the sample social survey. In this, a sample cross-section of the population is visited and interrogated by investigators provided with questionnaires, the answers to the questions being subsequently analysed statistically and expressed in terms of percentages. Stated baldly thus, the method sounds crude in the extreme. But social research workers, unconnected with commerce, have in fact carried the technique to a high degree of refinement. The social research worker refers to this type of investigation as an opinion or attitude study, in contradistinction to surveys concerned with collecting data about more material things, e.g. standards of lighting, food, and clothing stocks, etc.

The Social Survey Technique Examined

The Sample: It is often asked how social survey workers can in fact be sure that the cross-section of the public they have chosen is really representative. The questioner often goes on to observe that he does not believe that *any* cross-section or sample can in fact be representative.

To answer the second question first, though human beings are infinitely various, in any particular respect variation is limited. Suppose we take height, measured to the nearest inch. Most people will be between, say

4 ft. 8 ins. and 6 ft. 1 in. There will be a certain number outside these figures at either end, but the proportion would be small. Inside this group there would only be eighteen varieties of height (by our definition). If we measured the height, to the nearest inch, of the population of London, we should find, perhaps, 90% of people between 4 ft. 8 ins. and 6 ft. 1 in., with 50% say, between 5 ft. and 5 ft. 2 ins. Now it is an experimentally established fact that, if from the whole population of London, we drew at random (that is in such a way that every person had an equal chance of being drawn) a sample of 2,000 people, $90 \pm 2{\cdot}5\%$ of these 2,000 would be between 4 ft. 8 ins. and 6 ft. 1 in. in height, while $50 \pm 3{\cdot}3\%$ would be between 5 ft. and 5 ft. 2 ins. In other words, by examining 2,000, we determine facts about 5,000,000, with only a small but known margin of error (the $\pm 2{\cdot}5\%$ and $\pm 3{\cdot}3\%$). The validity of this procedure of sampling from large groups has been demonstrated many thousands of times, and it is now recognised by all scientists as sound.

The practical difficulty arises rather in making sure that the sample is truly random, or truly representative. Where complete population lists are available, it is relatively simple to make the selection. But often the social scientist has to build up what he calls a stratified sample. The basis of stratified sampling is to divide the population into easily identifiable types, e.g. on a basis of sex, age and occupation, and to put the same proportion of, say, male middle-aged bakers in the sample as there are in the whole population. The details of the technique of stratified sampling are very complicated, but its validity has now been shown.

The interview: Interviewing the chosen sample is also a highly skilled technique. If the results are to be dealt with on mechanical counting and sorting machines—and this is essential in any large-scale inquiry—a carefully designed questionnaire (based on 'pilot' investigations) must be used. The truthfulness of the answers obtained must of course be studied; this involves not only deliberate falsification for prestige or other reasons, but also problems of memory, and of how much people actually know. The more the people interviewed can be brought to see the value of the inquiry, the more likely is one to obtain valid results.

Analysis and interpretation: The first stage in the analysis of a social survey is a careful checking of the questionnaires, to make sure that the recorded answers can be interpreted. The detailed methods by which, perhaps, the twenty or more different answers to one question are converted into figures which can be manipulated by machinery are outside the scope of this paper. The interested reader should refer to *Scientific Social Surveys and Research*, by Dr. P. V. Young, recently published by Prentice-Hall of New York. Suffice it to say that the statistical material can be analysed to show not only what percentage of people made what answers, but how

the percentages vary with sex, age, income, occupation, or even the answers to other questions.

In interpreting results, much technical knowledge as well as common sense is needed. Every effort must be made to check sample findings against any total figures obtained from other sources. In studying the effects of health education, for example, objective indices of success—such as the number of children immunised against diphtheria—may be of great value. But such objective indices are hard to come by; furthermore, they tell us little or nothing about why children were immunised—or why not. Here we must rely on the detailed study of samples.

Qualitative Surveys: Before social phenomena can be subjected to numerical analysis, the phenomena must be carefully examined—to decide what is worth measuring and can be measured. This qualitative analysis is an invariable prelude to the statistical social survey. And in the field of health education, much remains to be done here before the social scientist can begin to apply his more exact survey methods.

In qualitative analysis, there is a big field of work open to any health educator. He should be continuously trying to find out what beliefs his pupils hold, why they hold them, and what methods of instruction they find most efficacious. Thus a body of knowledge about popular health customs and beliefs will be built up, which can later be subjected to analysis by quantitative social survey.

Some qualitative Findings

In the matter of sleep, the public has many firmly held beliefs. Some of these may be sound, though knowledge of the physiology of human sleep is unfortunately still in its infancy. Among the most prominent beliefs are:—

(*a*) An adult needs eight hours' sleep, and a child one or two more.
(*b*) Brain workers need more sleep than manual workers.
(*c*) An hour before midnight is worth two after.
(*d*) It is better to sleep on the right than the left side.
(*e*) A bed should lie north by south, rather than east by west.
(*f*) It is dangerous to sleep with the moon on one's face.
(*g*) One should—or should not—eat, just before going to bed.
(*h*) Sleeping too long makes for sluggishness.
(*i*) Dreamless sleep is the most beneficial type.

Which of these beliefs are most widespread can only be discovered by quantitative survey.

More important, perhaps, than mental attitudes towards sleep are the physical conditions of sleep. Here survey methods can yield data of great value to the health educator. We do not know how common, for example,

is the practice of going to bed in one's underclothes, or how many people open their windows at night. A lecturer at a Sea Scout meeting asked his audience, "Hands up those who sleep with their windows open," and not one hand went up. No doubt, the blackout may have been partly responsible for this. But the health educator of the future should have exact knowledge about existing health habits, or else he will waste his time preaching to the converted.

A study of physical conditions may reveal obstacles to health education. To preach regular baths to those without running water is certainly to invite rebuffs; nevertheless, it may be well worth while. It may open people's eyes to a need they had never considered, and, by creating an informed public opinion, may in the long run lead to the provision of the necessary facilities. Incidentally, such evidence as I can obtain goes to show that the 'coals in the bath' stories about rehoused slum families are without foundation.

The subject of cleanliness is one rich in health superstitions. The belief that head lice are a sign of good health appears to be slowly dying. The connection between nits, often regarded as 'natural,' and lice does not seem to be generally known. Though the heat of the permanent waving machine may kill many lice, the supposed necessity for retaining set hair in place, to the detriment of the use of the brush and comb, appears to account for a good deal of lousiness.

The bathing of children is another interesting subject. Many working-class mothers discontinue the daily bath when the baby reaches the age of 6 to 9 months. Thereafter, two or three times a week is considered enough. The social factors involved in bed-wetting are also worth studying. It appears likely that children sharing beds with adults become dry before those sleeping alone, apparently largely because the child is able to indicate its needs, while the adult has a vested interest in satisfying them. How far fear of parental chastisement plays a part I do not know.

Some quantitative Findings

The Ministry of Health have published the results of a number of sample inquiries made for them by the Wartime Social Survey. Shortly after the start of the national venereal diseases campaign, a random sample of the public between the ages of 14 and 50 was questioned on the subject by the Social Survey investigators. In over 2,000 interviews, only 3% had to be abandoned because of shyness or embarrassment on the part of people interviewed; 86% of the public had seen the first Press advertisement, and 72% admitted having read it. People were then asked if they knew what the venereal diseases were: 69% claimed to know something about them, about 30% naming them, 17% gave doubtful or vague answers, while 11%

frankly did not know. 11% represents about 3 million of the adult population. Less than 50% knew what the venereal diseases were before reading the Press advertisement. An analysis by age showed that ignorance was much greater in those under 20, and hence that the need for health education was greatest here.

In connection with the diphtheria immunisation campaign a survey was made to find out parents' knowledge of and attitude to the subject. Two types of district were chosen—those with a high proportion of children immunised and those with a low proportion. In the 'bad' areas, 56% of parents did not have any idea about the cause of diphtheria, while 22% thought the cause was poor general health, bad sanitation, or dirt. In the 'good' areas, only 27% had no idea about the cause, though 30% attributed it to causes other than germs. The percentages in 'good' and 'bad' areas realising it was a germ-caused disease were 55 and 31 respectively.* It is, of course, possible that the greater knowledge of the cause of diphtheria was a *result* of the higher proportion of children immunised and not the *reason* for it. At all events, health education and sound health practice had gone hand in hand.

Conclusion

It is clear that the study of the audience in health education is only in its infancy. This brief paper gives no more than an outline of methods and some preliminary results. No attempt has been made to examine in detail the technical criticisms of the methods employed. Suffice it to say that they are present in the minds of social scientists working in this field; many of the obvious difficulties have been overcome, but much still remains to be done.

In the qualitative study of the public's knowledge and beliefs about health, all health educators have a useful field in which to work. Only when the full range of ideas, beliefs and prejudices is exposed, can the more exact technique of the quantitative social survey be applied. When, in due course, the minds—and the habits—of an audience have been adequately mapped and described, health education can greatly increase in efficiency. There is one proviso to this remark: it is little help knowing what the public think and do, unless at the same time one knows what they should think and should do. Basic research on health and health habits is no less essential than 'audience research,' and here too the method of social survey may have a part to play—but that is another story.

* These figures add up to more than 100% since some people gave more than one answer.

VACATION SCHOOLS

If you are interested in Vacation Schools on Health Education please see the inside of the back page of the cover of this Journal.

HEALTH CRUSADERS

By W. P. Kennedy, F.R.S.E., B.Sc., Ph.D.(Edin.), L.R.C.P. & S.(Edin.), L.R.F.P. & S.(Glasgow), F.I.C.

There is general agreement that in matters of physical and mental well-being the public are predominantly 'disease-minded' rather than 'health-minded,' and that, therefore, the first aims of a health policy should be to reverse the attitude from a negative outlook to a positive one. The corollary is also accepted that the primary method of attack is health education. This must be more than instruction in hygiene, it must inculcate a new spirit and to do this something of the fervour of a crusader is needed. It is thus worth considering exactly who are concerned with putting the principle into effect and how best the end can be achieved.

The Spearhead of the Attack

The spearhead of the attack must be the medical profession for only qualified practitioners have the necessary training and experience to appreciate all the aspects of health strategy and tactics. They have, too, the closest contacts with the public. There are many kinds of doctors and each will have his special place in the army of assault. The chief rôle falls to the general practitioners—in the military analogy, the infantry—for they work at the closest range with the innumerable personal difficulties of their patients. But the emphasis in the training of the doctor hitherto has been far more on pathology and diagnosis than on prevention. There are signs that this tendency is passing, and medical teachers in all branches are asking for more extensive training in preventive measures and in the recognition of the earliest stages of disease. The structure of society and of medical practice has militated against family doctors devoting much time to prevention but here again the outlook is changing both inside and outside the profession. Of course, many physicians do a great deal of health education and we should not lose sight of this fact, but on the whole they would be the first to admit that the circumstances of their work do not permit them to do as much in this direction as they would like.

Long-Range Fighters

Next we come to the more long-range fighters of the profession whose contacts with patients are less immediate. The Medical Officers of Health exercise a valuable educative function in awakening their Councils to the importance and implications of health problems, and through the Councils can arouse the community to a sense of urgency in carrying out reforms and

advances. The M O.H. often takes a direct part in health propaganda and instruction by the established methods of slogans, posters, health weeks, baby weeks, exhibitions, lectures, health films and the like. The newer techniques such as the 'health brains trust,' and discussion groups are being tried. Still more methods will certainly be developed; for example Mr. Crew, Secretary of the National Federation of Personal Health Associations, has developed the idea of health propaganda through entertainment.

Professors and lecturers in medical schools have both an indirect and a direct function in the crusade. Indirectly by altering the emphasis of medical teaching, they can prepare the new generation of doctors rather to build up health and prevent disease than simply to cure or relieve conditions which have become established. Directly, they could use the authority of their posts and their skill in exposition to give popular lectures and courses on hygiene, maternity and child welfare, venereal disease and the like through the medium of extension courses, the Workers' Educational Association and similar institutions. The medical teachers, too, could do much by writing authoritative articles for newspapers and magazines. The press has an unsatisfied appetite for this kind of contribution which sometimes leads to the publication of inaccurate material. The risk of professional trouble through 'advertising' often deters doctors from writing, but many of the teachers are not in practice and so are free from this difficulty. As well as the scope afforded for health instruction by the general press, there are a few publications devoted wholly or in greater part to health questions, but none have a large circulation and unfortunately, none approach the standard of the American Medical Association's popular journal *Hygeia*. There is an opportunity for development in this field.

An Opportunity for Specialists

The specialist medical officers of local authorities and Government services who are concerned with maternity and child welfare clinics, venereal disease and tuberculosis clinics, school medical service, and one might well add the dentists in the public services, have all so obvious an educative rôle to play that it is unnecessary to expand the topic, except to say that they ought to be well equipped with the psychological techniques for conveying their message in an inspiring way. Then industrial medical officers who are growing in number are in a specially favourable position to put health propaganda before their public; they need not limit instruction to the hazards of the industry in which they work, but can go into wider fields. If they carry the trade union officials and shop stewards with them, they will meet few difficulties for all the evidence shows that the workers are avid for authoritative information. Without claim to special knowledge it may be suggested that in the prison medical service there lies a unique opportunity

for education in mental health. Few doctors disagree with the proposition that many law-breakers find themselves in gaol because of mental, and even sometimes physical, conditions which would be better countered by medical than by penal treatment. Until the law is not only of the same opinion but puts this view into effective action, the prison doctor would seem to have an important function in improving the mental hygiene of those in his care.

There are many specialists in medicine and its allied sciences who can and should inform the public of established knowledge whereby the welfare of the individual and the community can be improved. The nutrition experts are perhaps the most obvious of this group. (But it might not be unfair to ask that a clear distinction be made between what is established fact and what is still probability or, perhaps, the personal conviction of the research worker.) The physiologist can contribute valuable information on fatigue, on the reactions of the human body to environment, such as ventilation, lighting, and the like. It is true that much information is already put before the public in various ways, but not always by the most competent authorities, nor through media with the widest circulations. Leaders in the medical sciences might well take more part in such work which is entirely consistent with the dignity of their positions.

The Need for Help from Auxiliaries

Besides the physicians and surgeons, there are many groups of medical auxiliaries and others engaged in one way or another in this great business of health. Dentists, nurses, midwives, health visitors, pharmacists, masseurs, sanitary inspectors, physical education instructors and chiropodists all fit into the plan. Each in his or her own way takes part in the crusade for better health. Their contribution can be immensely enhanced if they hold steadfast in the faith that health is a highly desirable aim, that it is worth working for, and that it can be obtained or at least improved by the deliberate and informed action of the individual. Believing these things they must realise that it is their inescapable duty to pass the good news on to the public with whom they come in contact. Such a duty well done ceases to be a task and becomes a pleasure. The value of help from these groups should never be under-estimated. They have their special knowledge and opportunities to bring to the great cause of improving the nation's health, and its inevitable sequelae, improvement in national efficiency, productivity, and an incalculable addition to the happiness of all. I would have liked to include the clergy in the list of health crusaders for I believe they have a field of mental hygiene to cultivate on which no other worker encroaches. It is not the work of the lay psychologist that is referred to, but mental health in its relation to ethics. The moral aspect of man's life cannot be separated from the mental, or for that matter, physical life, and health education is not complete unless

the moral implications are included. Some treatises on the subject have appeared such as G. S. Marr's *Christianity and the Care of Disease*, though they are relatively few. But this holistic attitude is not yet so widely accepted for either the clergy or the people to consider health education as a regular pastoral duty, or indeed to realise how much the ethical side of life has direct bearing on health.

The School Teacher's Part

Further, on the fringe of the campaign come the school teachers. In nursery schools and kindergarten a good deal of attention is paid to the inculcation of good health habits. This is most valuable work, especially for the children who come from less favoured homes. But without belittling in the slightest the importance of the ordinary school teachers' contribution it is a fact that their concern is not *primarily* with health as it is with the other groups, and their training in hygiene is only one of a large number of quite different courses.* There are indications that the future may add greatly to the teachers' rôle in health work. For example six Glasgow schools were chosen some time ago to start a campaign for promoting hygiene in the school. At the Central Council for Health Education Summer School in 1943 Professor Hogben said that Birmingham University proposed to run special courses in health education methods for school teachers. When these courses have established themselves as a success, which they will unquestionably do, other Universities and training colleges will be swift to follow the example. Space only permits reference to other bodies with more or less direct interest in health propaganda such as the Boy Scouts, Girl Guides, St. John Cadets, the Youth Hostel Association, and many others, but the usefulness of their work in this direction is, of course, very great.

Methods of Attack

A note may be added about two newer methods on health education, of which the first is radio. The success of the Radio Doctor is like a good wine that needs no bush; and the widespread interest which the broadcasts of the Ministry of Health's Chief Medical Officer have aroused is evidence of the huge public he has reached with his health surveys. The B.B.C. also run a weekly fifteen-minute broadcast on many subjects under the title 'Health Magazine,' but this is at the awkward hour of 10.45 a.m., when there is a relatively small number of listeners. It is a little surprising that so important a subject as the nation's health should be relegated to the least accessible hours, and not given a regular place in the evening when most

* Two authorities who saw the manuscript disagreed violently with this view but I preferred to face their disapproval and let it stand. Teachers are concerned with health education or they would not be mentioned here, but teaching school subjects is their primary work and interest, and health can but come second. I have not only been at school, but been a school teacher.

people are able to turn on their radio. After all, every listener is not necessarily musical or partial to the surrealist comedy of certain programmes.

The films offer a tremendous and largely unexploited medium for health education, and the words 'largely unexploited' are used advisedly although many films of the kind have been made. The majority have been made by amateurs and by various societies which have used the rather unsatisfactory committee method or for economic reasons are 'shot on a shoestring', to use the trade term. This subject is so large that it deserves an article to itself.

Strategy

The most important deduction from this brief and necessarily inadequate survey appears to be the necessity for following the teaching of General Smuts* and adopting the holistic viewpoint in dealing with any single point of the health crusade There are a large number of societies, institutions and bodies of various kinds concerned with one or other aspect of health education. The Central Council for Health Education has no less than forty-eight bodies affiliated to it . The National Council for Maternity and Child Welfare (itself one of these bodies) has nineteen constituent bodies. The Central Council as its name implies, has a co-ordinating function, and one confidently believes it has a future of growing importance and authority.

This is particularly so because it is in a position to view the field as a single problem. Other workers, however they be wedded to their individual specialty, must try to attain this outlook and also appreciate that just as man is only properly regarded as an inseparable unity of body, mind and spirit, so is the problem of health to be seen as a single problem, and though it has many divisions, these are mutually inter-dependent and cannot be understood or dealt with singly as isolated questions.

* Smuts, General J. C., *Holism and Evolution*, 3rd edition. 1936.

N.A.P.T. SCHOLARSHIPS FOR HEALTH VISITORS

Two Scholarships of £50 each are to be awarded by the National Association for the Prevention of Tuberculosis to Health Visitors wishing to specialise in Tuberculosis work. The award will be made to cover a three months' training, and is open both to qualified Health Visitors and to students on condition that they obtain the Health Visitor's Certificate. Further details from the Secretary-General, N.A.P.T., Tavistock House North, Tavistock Square, London, W.C.1, to whom applications should be sent not later than Monday, May 7th, 1945.

IMPORTANCE OF THE SKIN

By John T. Ingram, M.D., F.R.C.P.
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We are very ready to admit that 'beauty is skin deep' but it is doubtful if many of us are conscious of the many other truths that lie in the depth of the skin or are ready to give full significance to much that is constantly portrayed in that organ. We shall consider some of the reasons why the skin is so important both in health and disease; but first let us be quite clear as to what is meant by these terms.

Health implies a state of physical fitness and ability to allow our fit organs to function; it implies a state of mental and emotional well being, happiness and satisfaction. Health is a state of adjustment of body and mind to its environment, using that term in its widest sense.

Disease naturally means the reverse of this state but it has to be analysed a little more particularly to arrive at a practical issue. Disease may be of an organic nature, as infection by the tubercle bacillus or invasion by a cancerous process—an act of God. This form of disease, however, probably accounts for no more than thirty per cent of all ills presented to the doctor. The majority of ill patients suffer from a functional disorder, a failure of body or mind to adjust or adapt itself to environmental influences, such failure manifesting itself as a disturbance of function of one organ or another.

Many-sided Functions

How and why does the skin participate in health and disease? The skin is a complex organ performing many essential functions. It regulates the temperature of the body, protecting it against damage from climatic injury and especially by its secretions, against infection from disease-producing organisms. As an accessory lung it takes part in respiration. In addition to the bowels and the kidneys, the skin acts as an excretory organ. Vitamin D is elaborated in the skin—particularly as a consequence of exposure to light—and there may well be other essential functions undertaken by the skin of which we are yet ignorant.

Not least important is the sensory function of the skin, its appreciation of and adaptation to changes in physical environment, its warning against

dangers and its appreciation of the character and purpose of that with which it makes contact. To the blind it is as an eye; to the deaf an ear. Indeed the skin functions in no small measure as an extension of the mind, as a receptor as well as an organ of expression of the emotions. In those creatures in whom a brain and spinal cord do not exist the skin determines friend from foe, food from poison. As we ascend the ladder of evolution it is from the skin that these higher sensory organs, the brain and cord, are formed.

A Barometer of Health

It will be recognised that with increasing social and economic progress, with the advance of civilisation, there has been a tendency to cripple the skin by shutting it off from light and air by the wearing of clothes.

No doubt the change in diet from natural sources to much that is artificial and synthetic must impair the efficiency of the skin through ill-nutrition. There can be no doubt that the unnatural character of so much of the working lives of so many of us—with its physical, mental and emotional stresses and strains—is writ large in changes of skin texture, character and function.

It is clear then that the skin merits the attention of those interested in health or disease. It should provide a bed-rock of knowledge for doctors and nurses, for it affords the only opportunity in medicine for studying the nature of disease and the effects of treatment under direct observation. All other organs are hidden from view and their disturbances can never be so clearly appreciated.

For the layman his skin is, consciously or unconsciously, the barometer of health and since every skin is peculiar to the individual, each man is the best judge of his own skin, for he has the greatest experience of its behaviour and characteristics.

Significant Variations

There are certain gross variations which we may all recognise—the relative stability of the brunette, the sensitiveness of the fair and the instability of the red-haired and freckled. There may be a lack of health in an excess of greasiness or of sweating—though this may be natural to certain races, to certain physiological phases or to particular circumstances. Apart from these circumstances, greasiness or sweating (especially of hands and feet and armpits), will indicate some disturbance of internal glandular function or of emotional health. Similarly an abnormally dry skin is associated with other changes—a harsh temperament often, an irritability which may extend to other organs than the skin.

The texture or fineness or delicacy of the skin is in no small measure a

reflection of the character and temperament of the one who wears the skin —just as clothes may portray character.

These skin characters are often extended to the hair and nails and departure from the normal may merit attention to the physical or mental health.

Disorders of Functions

Organic diseases of the skin, such things as impetigo, scabies, boils, tuberculosis, cancer, etc., are manifest almost as soon as they arise. For that reason they are much more amenable to treatment; indeed, unless an individual be peculiarly stupid or ignorant, it is the rule to cure cancer of the skin, whereas cancer of other organs, as is well known, carries a high mortality rate because it is for long unseen and therefore unrecognised.

While this is obviously a great boon it unfortunately is true that functional disorders of the skin present rather more difficulty of interpretation and treatment than do functional disorders of other organs. A headache or sleeplessness, occasional palpitations or indigestion, constipation, various aches and pains—these may be due to functional disorder of other organs, but we accept them for what they are worth. Without a doubt many functional disturbances occur and are unsuspected because they never reach the level of a headache or a colic, and may go unrecognised. Not so with the skin, where every little symptom is seen or felt—as a spot or an itch.

Furthermore, while we will accept the possibility of sleeplessness or neuralgia being due to fatigue or worry, of colic resulting from an indiscretion in diet or obesity from bad habits, we do not take so kindly to the suggestion that an itch or a rash may be a similar disturbance of function consequent upon some maladjustment. It is difficult to resist the desire to attack what we can see as an offence and we usually fly to noxious and harmful remedies. So we may readily create out of something trivial an extensive and distressing skin reaction from excess of zeal or a lack of understanding.

Reactions to War-Time Stresses

Times like the present are rich in examples of the effects of environment and especially of psychological stresses and strains upon this sensitive organ of our bodies. Among the most serious disabilities in the armed forces are the functional dermatoses consequent upon failure of temperamental adaptation to the circumstances of war. In industry, no problem has given greater concern than that of industrial dermatitis due to physical stresses and strains, fatigue, nervous irritation and debility and the failure of the unaccustomed to settle into a new industrial sphere. The breaking up of families, the emotional distress consequent upon broken homes, evacuation,

separation and anxieties strain seriously the health of the skin. We are all familiar with mental and emotional shock provoking an immediate pallor or flushing, gooseflesh or 'hair standing on end,' emotional sweating of the palms and feet and sallow discoloration round the eyes. We know that falling and whitening and greying of hair, wrinkling and lack of tone, scurf and dry patches and other disturbances, including itching, will reflect prolonged worry and nervous debility. It is not surprising that such influences should provoke other disturbances—itching, eczema and dermatitis, alopecia and seborrhoeic dermatoses. These and other ills have been freely seen in recent years as a consequence of the present chaotic times.

The Effects of Diet

While these, the psychological, are of paramount importance other influences may play their part. Malnutrition in a serious form produces marked changes in the skin, dryness, a prominence and roughening of the pores, cracked angles of mouth, scurf and other rashes and sensititiveness of the skin to light and haemorrhages, but these things are rarely seen even in war-time in this country. Nevertheless, minor changes and debilities are not uncommonly detected and the administration of such things as milk, marmite and raw vegetables or salads (vitamins A., B. and C.) may produce unexpected improvement in patients whose skin suggests such debilities. But the general balance of the diet must not be overlooked since adequate vitamins, necessary as they are, will not repair the damage caused by an ill-balanced dietary.

In general, adequate proteins and fresh foods are the essential requirements for health of body and skin. The natural tendency to take an excess of starches and sweetstuffs—necessarily increased in war-time—leads to a flabbiness of body and skin, with impaired health and resistance. The absolute requirement in this matter varies considerably, of course, with the nature of one's work.

We are familiar with rashes from acute infections—but it is not so generally realised that chronic skin conditions may be at least in part, dependent upon chronic infection such as dental and throat and nose sepsis.

'Know Thyself'

In all this we must not lose sight of the individuality of each one of us. We have our own peculiarities and idiosyncrasies. It is the charm of medicine that its practitioners never see two problems which are identical. We must therefore be prepared at all times to meet with or to possess skins which show their own peculiarities. In diet they may not tolerate what to the average man is good food. In industry they may be intolerant of some contact—a dust or oil or liquid—which proves harmless to other workers.

In the field there may be a particular grass or corn or weed which will provoke in them an acute dermatitis.

The practice of medicine is, in regard to most problems, an individual one. But what is not always appreciated is that the individual can do most in the resolution of his own difficulties and troubles because he has the greatest opportunity of studying his particular problem. A little guidance and assistance from his doctor, an indication as to the lines upon which he should turn his attention will generally be wise, but the understanding of himself and of that self in relation to his environment is the key to a cure and to health. This is helped in no small measure by an understanding of and respect for one's skin. 'Know Thyself' was a wise injunction of the gods.

It is natural for us to consider, to care for and respect our skin in our youth and prime. Consciously or unconsciously we recognise its importance and the fact that it may do much to determine the course of our lives.

A neglect of this as we get older is a reflection often of an ageing of our arteries and of our minds, but it may reflect a carelessness, a lack of interest in life or of adjustment to it, and should be corrected.

BIOGRAPHICAL NOTES

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DIPHTHERIA IMMUNISATION —WHY, WHAT AND HOW

By W. B. Stott, L.R.C.P. & S. D.P.H., *Medical Officer of Health, Cuckfield Urban and Rural Districts*

Diphtheria is the principal cause of death amongst children of primary school age. It is an infectious disease caused by germs of a specific type which form a membranous exudate at the site of infection, principally the nose and throat, and produce a toxin which is very liable to give rise to heart failure and paralysis. The disease is conveyed by direct transmission from an infected person by coughing, sneezing, or even talking.

To understand the principles of immunisation against this disease it is necessary to know how the body reacts when infection takes place. While the organisms are multiplying at the site of infection and producing the toxin the body is stimulated to form anti-toxin, which circulates in the blood. If the infecting dose is small, sufficient anti-toxin may be produced to neutralise the toxin, and prevent any clinical sign of the disease.

It is possible to find out if sufficient anti-toxin is present in a person's blood to protect against an attack of diphtheria. This is done by means of a Schick test, which is carried out by injecting a minute amount of diphtheria toxin into the skin. If the person concerned has sufficient anti-toxin circulating in his blood to prevent him from developing diphtheria, even though he is exposed to relatively severe infection, the anti-toxin in the blood neutralises the toxin injected into the skin and therefore renders it innocuous. If the blood anti-toxin is below the level necessary to give complete protection, however, the toxin injected into the skin is not neutralised and causes a local irritation which shows itself in the form of a reddish patch within a few days of injection. Consequently if a reddish patch appears at the site of the injection within a few days, the individual concerned is described as being Schick positive, and is regarded as susceptible to diphtheria. If no reddish patch appears, he is considered to be Schick negative and, at the time of injection, immune to diphtheria. A more scientific method, but not of general application, is to take a sample of the blood and find out exactly how much diphtheria anti-toxin it contains.

By these means it has been found that a number of children attending schools where diphtheria has been endemic have developed immunity against the disease, the percentage increasing with the age of the children. This is explained by the fact that the children have received a number of small infections, each of itself insufficient to produce symptoms, but each stimulating the blood to produce more anti-toxin. A Schick test was carried out

on London school children evacuated to my area, and it was found that 51 per cent were already immune, although these children had received no previous preventive inoculations against diphtheria. By way of comparison a Schick test carried out on children attending a village school, in an area where for years there had been no case of diphtheria, showed that not a single child was immune.

The Case for Diphtheria Immunisation

Although a large number of children do develop immunity in the unobtrusive manner described, this 'natural' method is expensive in human lives because a large number contract the actual disease; and prior to 1940 about 60,000 cases of diphtheria were notified annually in England and Wales, the average annual number of deaths from this disease being approximately 3,000. Diphtheria occupied the seventh place in order of magnitude among all the causes of mortality during the first two years of life, and it was the principal cause of death among children between four and eleven years of age. No abatement of incidence or reduction of mortality had taken place since the early years of the century. In addition to those dying from the disease, a large number of children were left with some form of permanent disability—heart disease, paralysis, etc.

Research into the problem of finding a means by which children could be artificially protected against diphtheria at an age before they were subjected to the risk of infection, has been carried out since 1907. It was found that the injection of a small amount of diphtheria toxin, modified to prevent undesirable reactions, stimulated the body to produce anti-toxin, and that an additional dose some weeks later further increased the amount of anti-toxin. This procedure has the obvious advantage over the natural method in that the child is not exposed to the risk of contracting the disease. By carrying out the Schick test following the inoculations, it has been shown that approximately 97 per cent of children are rendered immune with a course of two injections, the remainder requiring further injections to obtain the required protection. The best time to immunise is at one year of age, as prior to this the infant does not respond so well to the inoculations. It is advisable to re-test when the child goes to school, or to give a further injection at that time, as immunity tends to wane over a period of years.

The Results

Artificial immunisation against this disease has, since 1920, been carried out on a large scale in the United States of America and Canada, and the experience there has been that where 60 per cent of the pre-school children were protected, diphtheria has been practically eliminated as a cause of death. In New York, for instance, the mortality from this disease amongst

children 0–10 years in 1920 was 100 per 100,000, and by 1940, when it was estimated 70 per cent of the children were immunised, the rate was 1·1.

The immunisation work carried out in this country was given a great fillip when the Ministry of Health, with the assistance of the Central Council for Health Education, started an immunisation campaign in 1940; and by the end of 1943 it was estimated that 56 per cent of the child population under 15 years of age, had been immunised.

What effect has immunisation had on the mortality from diphtheria in this country? The deaths from diphtheria up to 1941 had never fallen below 2,000 in any one year, but in 1942 they had declined to 1,827, in 1943 to 1,370 and in 1944 to under 1,000. When comparison is made between the immunised and the non-immunised it is found that in the first six months of 1944, when approximately half the child population was immunised, only 16 deaths occurred from diphtheria in immunised children, as compared with 368 deaths in non-immunised children—excellent odds in favour of the immunised child.

In my area the average percentage of children immunised since 1939 has been 95, and taken over a period of five years an immunised child is found to be approximately twenty-eight times less liable to contract diphtheria than a non-immunised child.

Action by the Medical Officer of Health

The Ministry's campaign comprised the drawing of the attention of local authorities to various ways by which parents could be approached, and by arranging with the Ministry of Information and the Central Council for Health Education for the production and distribution of leaflets and posters to local authorities. Other methods have included broadcasts and the production of films.

It is the duty of every local authority to make widely known the advantages of immunisation, to provide adequate facilities for treatment, and to inform parents how that treatment can be obtained. The medical officer of health of the local authority is responsible for the administration of the scheme.

Every medical officer of health should have complete records of all the children in his district. Particulars of the 'under fives' can be compiled from the birth returns, and child welfare records. In my view, however, it is impossible to keep accurate records without having recourse to the food office which has, of course, complete lists of all children, including those who have entered from another district. The food executive officer should be consulted from time to time.

Lists of children attending schools should be obtained from the head teachers and kept up-to-date every term by obtaining particulars of children

who have entered or left. The manner by which teachers can assist in the campaign is discussed more fully below.

A card should be made out for every child in the district, and it simplifies recording and making arrangements for treatment if the cards of the 'under fives' are separated from those of school children, and the latter further sub-divided into the schools attended.

Every child in the district having been recorded, arrangements have then to be made to bring to the notice of the parents the advantages of immunisation, and to provide the facilities for the treatment to be carried out.

General methods consist of articles in the Press, the showing of films in the local cinema, cinema slides, the display of posters and distribution of leaflets to shops and voluntary organisations. The services of the clergy should also be enlisted to support the campaign.

Every parent should receive a letter signed by the medical officer of health giving information about the dangers of diphtheria and how immunisation reduces the risk of contracting and dying from the disease. An acceptance form should be enclosed with a request that it be signed and returned. A good plan is to send the letter together with a birthday card* on the child's first birthday.

Need for Co-operation by Teachers and Nurses

In dealing with the school children, it is of the utmost importance that the head teachers are kept fully informed of the objects of the campaign and their co-operation secured. It is suggested that in the first instance they should be provided with a memorandum setting out the salient facts on immunisation, and this could well be followed by a personal visit by the medical officer of health or one of his staff. There are several ways in which the head teachers can help: (1) by furnishing a list of children on the roll: (2) distributing leaflets and acceptance forms to the children: (3) ensuring that the acceptance forms are returned: (4) interviewing and persuading doubting and hesitant parents. In the case of this last provision the head teacher's influence is considerable. I remember visiting a school in the early days of the campaign in this area where the percentage of acceptances was 35, which at that time was considered quite good. I appealed to the head teacher to take a personal interest in the scheme, and the percentage of acceptances had risen to 90 one week later.

The percentage of parents who consent to have their children protected following this initial approach will depend on several factors. In my area it has been found that the percentage of parents who return the acceptance form is considerably higher now than it was several years ago. In my opinion, this is due to the increase in national and local publicity. Cases of diphtheria

* The Central Council for Health Education has an excellent birthday card for this purpose amongst its publications.

in the neighbourhood will also increase the number of acceptances, as will the accessibility of facilities for treatment.

In order to secure a really high percentage of the children immunised, the parents who do not accept must be visited so that the advantages of the procedure may be explained to them personally. Health visitors or district nurses are usually asked to undertake this work as they are already known to the mothers and their advice is likely to be taken. They should be fully instructed in the line of approach to take with parents, and should give information as to how the treatment can be obtained. A health visitor or district nurse with a good personality should secure at least 90 per cent of acceptances from parents. Some authorities supplement this service by enlisting the help of the Women's Voluntary Services and the Red Cross Society.

Facilities for Treatment

The majority of local authorities employ one or more medical officers of the public health department as immunising officers. Some local authorities employ general practitioners for this work, and others have in addition an arrangement with general practitioners that children whose parents desire it can be immunised at the doctor's surgery, the local authority paying the general practitioner for each child immunised. The advantage of bringing the general practitioner into the scheme is that many parents prefer to have their children immunised by him, and in any case his advice is frequently asked.

In most places treatment is provided at the council's infant welfare centre, which is usually accessible, and has the advantage that parents are already attending there with their children. Should a part of the town not be served by a welfare centre, it may be desirable to take over a hall specially for the purpose. Some local authorities employ a mobile clinic which takes up its position at a convenient place, the time and place having been previously notified to the parents.

It is a decided advantage in the case of school children to immunise, if possible, on the school premises, as the mother does not then have to take her children to a clinic or a doctor's surgery. There is no doubt that this is the reason why better results are obtained in respect of school children than with pre-school children. If possible, each school should be visited by the immunising officer every term so that new entrants who have not been immunised will not have to wait too long for their treatment. In a rural district the village school is generally the most suitable place for the treatment of the pre-school children, and both groups can be dealt with at the same time, with, of course, the consent of the head teacher.

With such a scheme in force, there is no reason why any local authority should not get at least 90 per cent of the child population 1–15 years of age immunised.

'FOOD ADVICE' IN A POST-WAR WORLD

By F. Le Gros Clark, M.A.
Secretary, Children's Nutrition Council

For the last four years or so the Ministry of Food has fostered within it a department called the Food Advice Division. Between them this department and the Ministry's Public Relations Division have been responsible for releasing upon the public an inexhaustible flow of advice and information on the choice and preparation of foods. There is no question that the attitude of the public, subjected to this wholesome inundation of cold facts, has been slowly passing through a 'sea change' in its wartime pattern of food habits. The purpose of the present article is to consider what is to happen to all this beneficial work when the war is over and the process of decontrol is upon us.

Advertisement and Education

Before the war some money was, of course, being annually expended by manufacturing and trading interests, by local authorities and by a few voluntary bodies in an effort to make the public more 'food-conscious.' The value of the contribution made by trade interests depended as was but natural, upon the kinds of food they severally desired to sell to the public. Where no Ministry claims a virtual monopoly of food propaganda, we cannot deny that the advertising policy of commercial firms may have its uses; the trouble is that there is no unifying control to decide where the emphasis shall be laid as between one food and another, and that in all commercial advertising *someone* is obviously considering what profits can be made. As for the medical officers and voluntary bodies that distributed pamphlets or organised lectures on the choice of food, most of them, one may suspect, assumed that the incomes of a fair proportion of their public were, at the best, on the margin of safety; the food habits and prejudices of our housewives may often have been lamentable, but their incomes were too low. Whatever may have been the sums expended annually by commercial firms, the total outlay of local authorities and voluntary bodies cannot have been of a high order; it was very uneven and did not reach a large proportion of the public.

Now, the Ministry of Food, let us remark, has never sought to *educate* the public; it has proffered advice and information. Possibly it avoided the term 'education' that it might not seem to be trespassing upon the preserve of a sister Ministry. However this may be, there was sound sense in avoiding the term, as the Food Advice Division soon appreciated. Most housewives

in this country are persuaded that their *education* ended with their schooling; but they do not mind absorbing a deal of useful information, provided (*a*) it strikes them as practical, (*b*) it reaches them with no flavour of patronage and (*c*) it is evidently part of a broad social leaven of enlightenment. The Food Advice Division has managed to inject these three qualities into its work; and the results have been gratifying.

In case I should be misunderstood, let me hasten to add that the Ministry has apparently never conceived of its task as other than an honourable partnership of effort with the Ministries of Health and Education. All three Ministries have worked amicably together and each has taken its due share. But to the public at large food is simply food and it cannot be denied that to the majority of housewives a Minister of Food seems the most natural person to offer advice on what to eat and when to eat it.

Food Advice Methods

The teaching methods adopted by the Ministry of Food are flexible and by no means static. They are still in process of development and one may indeed say that at this stage the Ministry is showing more vigorous evidence of growth and experimentation than it has done in the whole course of its existence. So much the worse, then, if the action of this ferment of teaching upon our social habits is to be suddenly restricted or even suspended by the process of decontrol and a mood of parsimony. But it will be, unless measures are taken to maintain it, if possible, in a modified and restricted form. There is here no space to analyse the structure of Food Advice, as it has slowly emerged from phase to phase; it is embodied ultimately in the 'Food Leaders' scheme, which was initiated in 1942 and has since spread, though still rather unevenly through most regions of the country. The 'Food Leaders' are the popular representatives of the leaven of Food Advice among the housewives themselves; there are by this time probably about 15,000 of them dispersed among hundreds of villages and urban streets. They are the true spirit of this campaign of enlightenment and through whatever modifications of terms and usages the campaign will pass in a post-war world, it is upon such a spiritual rock as this that it will have to be built.

Organisational Structure

But let us be quite clear about the essential structure of Food Advice. A social organism of this nature must have its skeleton and its controlling nerve-centres. The 'Food Leaders' are voluntary workers in the cause; but they must be built about a salaried staff of whole-time specialists. They are so built at present; and if this salaried staff be dismissed, the whole movement will certainly collapse. Let me briefly state the structure I consider to be indispensable for such a movement as this.

(1) There must be as now a central directive office, provided with a small staff of medical, scientific and publicity experts.

(2) There must be a certain number of provincial centres for the dissemination of teaching and advice. There are at present some forty Food Advice Centres in the country, each staffed by two or three qualified women. Their function is now mainly that of exerting a pervasive influence upon a large area, both through such lectures and demonstrations as they can arrange in factories, village halls and clinics and through their contact with the groups of 'Food Leaders' scattered about their areas. The more one examines the work of these women, the more convinced one becomes that some measure of decentralisation is essential; it is scarcely to be hoped that so large an outside staff would be maintained after the war is over, but we cannot dispense with it altogether.

(3) The Public Relations Division of the Ministry has established a regular service of news letters and bulletins, both to such specialists as canteen supervisors and teachers of domestic subjects and also, through the local Food Advice Centres, to the organised 'Food Leaders.' A service of this kind is the normal pulse-beat of any popular movement.

(4) The least impressive aspect of the Division's work perhaps has been its restricted output of display cards, leaflets and posters. Shortage of paper and of other materials have made this inevitable; and a Ministry concerned with the prevention of waste and with shifts in its available supplies had necessarily to use its paper allocations for dealing with these more immediate problems. But experience suggests that local propagandists need to be fed with material, if they are to have their imagination stirred.

(5) It is essential that the food advice work should be directed from an organisation that enjoys high prestige in the eyes of the public. This organisation need not be a Ministry; it might be a Council established for the purpose and assured of Ministerial support, or it might, indeed, be part of the expanded work of some existing body. But if it be a Ministry, then let it be a Ministry that is prepared to indulge in unorthodox methods of instructions. The public will not tolerate being 'educated' in food habits; and it does not consider its daily food to be merely a matter of 'health' and disease.

All these factors I believe to be necessary for the success of any long-term campaign in time of peace to improve the pattern of food habits in the community. But what would it cost us? There are no published figures to indicate what it costs the country to sustain the present work of the Food Advice Division yet we may venture an estimate. The annual expenditure on press publicity we do know; it amounts to about £400,000. But in this instance, of course, much of the funds are expended in informing the public about the proper use of ration books, the nature of the points rationing scheme, the accessibility of the 'welfare foods' and so forth.

Clearly these are only indirectly matters of food advice. A post-war organisation of this kind would presumably dispense with press publicity and content itself with articles contributed to the specialised press. Of the two divisions of the Ministry concerned with food advice and instruction the Public Relations Division is only incidentally involved. Precisely how much of its normal activity could be defined as 'food advice' it would be impossible to say. There are about sixty on the staff, all at headquarters.

The Food Advice Division proper has twenty-five on its headquarters' staff and about a hundred and ninety in the provinces, some at the Food Advice Centres and some pursuing the rôle of peripatetic dieticians. If we allow them a low average of £300 per annum, their salaries would not amount to less than £60,000 a year. If rents are estimated and an allowance made for postage and travelling costs, it is clear that the annual charges would be of the order of at least £70,000. Even if we cut this by half, we should still have a fairly large bill to meet. In any case, neither of the two Divisions has its own accounts department and this would have to be allowed for in any final estimate we should submit.

Food Education after the War

£70,000 is a trivial sum when related to our total war expenditure, but it is upon just such items as this that the eye of a parsimonious Treasury official is apt to fall. What argument can we adduce for maintaining an organisation of this character with public funds, except as a war-time expedient. Only the argument that proper feeding is one of the foundations of sound health and that, if we pursue our campaign with conviction, we shall presumably save the taxpayer some of the cost of ill-health in hospitalisation, absenteeism, premature senility and so forth. We cannot precisely say that, if we are permitted to spend £70,000 a year for a few years, we shall by the close of that period be saving the Social Security Fund about £100,000 and immeasurably increasing the stock of human happiness. But we can suggest that a Food Advice Movement of the type we have indicated is the natural corollary of a policy of high employment, adequate wage levels and social security.

Decision on this matter cannot be postponed. The precise form, structure and status of any peace-time organisation will have to be determined before the *personnel* of the Ministry has been dispersed and the adaptation of method to peace-time food conditions will have to be carefully studied. The first step is that of extracting a statement on Government policy. Surveying the whole field, we have probably two alternatives; we can either expand the scope of such a body as the Central Council for Health Education, or we can establish a separate Food Advice Council. Either course could be argued and there is fortunately no need for a precipitate decision.

TRAINING FOR PARENTHOOD

By A. B. Meering, *Organiser Exhibitions' Department of the National Council for Maternity and Child Welfare*

What is Mothercraft?

The term 'mothercraft teaching' has been widely used in the past, and frequently it meant little more than teaching how to bath a baby. Now advanced thinkers realise the importance of any education related to the child, the home and health, and visualise a time when a comprehensive scheme of such education will be part of every boy's and girl's education, with more advanced training for parents. Such a scheme would naturally involve the work of many specialists, who would need to make a combined effort in giving such instruction. At the moment there are few people adequately trained to teach a truly comprehensive course of Mothercraft.

'Mothercraft' or even 'parentcraft' does not adequately describe what we want to teach, but for lack of a better term we continue to use it. What, then, do we mean by 'Mothercraft teaching,' why do we wish it taught to all children, and why do we feel that such a wide experience is essential for the teachers of this subject?

The general purpose is surely to help and guide our children and adolescents, to enable them to understand the meaning of a good home life and appreciate their responsibilities as future citizens, and to encourage their interests in children and the maintenance of health. For such a course of instruction a more general title might be more suitable, the subject-matter being sub-divided to cover such subjects as personal hygiene, nutrition, cooking, marketing, budgeting, housewifery, public health services, child care, biology, home-making and handicrafts.

Attitude Towards Domestic Work

The great tendency of children at the present time is to consider any domestic work as rather inferior or something in which they have no interest. This condition is very largely due to their own home experience. So often the mother, through her own lack of knowledge and inability to run a home efficiently, becomes weary and irritable. There comes a stage when she looks on any domestic task more or less as drudgery, and frequently decides that her children must not be allowed to work as she has had to do. All too often she becomes a tired-out drudge because of her lack of training and

knowledge of this most essential work. She can be neither an excellent wife nor an excellent mother under such circumstances.

To avoid a continuation of these conditions, our whole attitude to domestic work must be carefully reconsidered. Much is being done in many of our schools to give the girls domestic science lessons, not only in a large kitchen totally unlike any home kitchen but in specially designed flats where they are taught housewifery, and in such surroundings the teacher can relate her theory to the girls' home life. In many instances, an attempt could be made to give the student from an inferior home a gleam of something better, thus teaching her to improve her standard of living whenever an opportunity is available. Throughout any domestic teaching, the relationship to health should always be in the foreground.

Need for Practical Training

Our children must be given not only theoretical knowledge, but also practical training which will help them to establish a good, wholesome home life for themselves. This practical teaching could include visits to child welfare centres, nurseries and nursery schools, which would be interesting and of great value. Whenever possible, a few hours' practical work could be done in such places, giving an opportunity for practical experience with children. Girls who have an aptitude for children's work will find such experience valuable in helping them to decide their future careers. The two most suitable people to give this basic teaching would be the health visitor with good experience of home visiting and training in the teaching of mothercraft, and the domestic science teacher who has had experience in social work. These two could form a team, and, providing they both had the all-essential knowledge, sympathy and understanding of the adolescent, it would be possible for them to achieve a great deal.

To make a success of any such scheme, we must consider very carefully the reactions of the adolescent—for example, their awakening to sex, their self-consciousness and their wonderful gift of sensing the true feelings of whoever is teaching the subject. Another important factor which must be constantly in our thoughts is the home experience of the children. Many have much practical experience and are quick to sense the lack of it in their theoretical instruction. It becomes very obvious, then, that the teacher must know the background of the students to ensure that the knowledge given can in some way be applied to their daily lives.

Up to the present, boys have not usually been included in any such scheme, except in a few instances where they have been given cookery instruction. Woodwork has been taught, and, in war time, the acute shortage of toys for nurseries and nursery schools, has in many schools encouraged the development of the craft of making suitable play material for the young

child. Nothing could be better than to interest boys in children through their own handicraft work, and we can go further and instruct them in the right type of material for various age groups and the use of play material in general. It is obvious that the boy requires such training and knowledge just as much as the girl, if he is to understand and accept his responsibilities as a citizen and a parent. His tutor should have qualities similar to those of the girl's teacher, and possess the ability to lead rather than merely to point the way. Like girls, boys also require emphasis on the whole practical side of this teaching.

Possible Sources of Instruction

Let us now consider such teaching in direct relationship to our homes as they are to-day, and especially to our young wives and parents. We have a health visiting scheme, in which a fully trained health visitor visits the homes of all children under five. This has proved of great value to mothers and children, but the tendency has been to judge such work on the number of visits made by the health visitor rather than on the quality of the visits. The duration of the visit must vary according to the needs of the mother, and therefore the visitor should be allowed to use her own discretion if she is to teach the mother at all effectively the real factors which must govern the care of children.

The experienced health visitor knows what a wide field of work this can be, how varied the questions are which she is asked and also how much the mother appreciates good practical guidance. In fact, the good health visitor becomes a trusted and valued friend. But is the health visitor, even with her additional training, equipped to advise and guide the mother with such problems as cooking, household management, marketing, etc.? This is doubtful, unless she has had exceptional experience and training. There, then, is the need for the domestic science teacher interested in social work. For her there is ample work to do in the homes and in the welfare or health centres.

Mothers do frequently attend cookery demonstrations, but much as they enjoy these classes there are many instances when the mother just cannot adjust the information she has received to her individual needs. Many would prefer and benefit more by home teaching. Here, again, the health visitor and the domestic science teacher could work together in harmony. The health visitor, finding a mother in the district who needs such teaching, would automatically advise her colleague. She would visit the home at the invitation of the mother, or, if the domestic science teacher were giving regular classes at the centre, the mother might contact her there. Unfortunately, it is possible that it would be the better mother who would be more likely to take advantage of such a scheme, but there are few women who

refuse teaching if it is really for the good of their children. In time the sympathetic domestic science teacher with the right attitude to the work could win through in the same way as the health visitor does.

Although the health visitor does a tremendous amount of individual teaching, it is not possible for her to give each mother the full instruction she would receive at classes. Therefore it is essential that courses of lectures or talks should be organised in the welfare centres. Such instruction is appreciated by all types of mother if there is a true sympathy and understanding on the part of the lecturers, but if the wrong approach is presented to them they may rightly resent it. To teach any mother successfully in class, it is imperative to understand the difficulties which she has to contend with, rather than simply to criticise her failings. During these talks, it is well to relieve the mother of her baby or toddler, by having adjoining accommodation for the children and helpers to look after them.

Daytime meetings in the welfare centre are invaluable, but they do not meet the full needs of parents. Welfare centre clubs which could organise evening lectures, social activities and discussions are essential. In this way, fathers can become better informed, and thus take their equal share of responsibility as parents. The father, perhaps by making simple play material for his child, becomes more interested in watching the child's reactions, and in turn the child attaches great importance to such a toy made by his father. This leads the child to develop a respect for his father's capabilities, and generally there is more unity between father and child. Both parents should realise that they each have a part to play, and that they are equally important to the wellbeing of their family.

Basic teaching on child care would be further emphasised in detail during the ante-natal period, either at the health centre or in the home by the visiting midwife, who would specialise on the care of the mother and the baby up to the time when the health visitor takes over. In recent years it has been realised how much the midwife can teach the mother, and her training has been adjusted to meet this work. To obtain the desired results the co-operation of the midwife with the health visitor is most essential. Their combined efforts, rather than that of two separate individuals with definite views of their own, can do much to ensure the establishment and maintenance of satisfactory breast feeding.

Another important worker in the social field is the district nurse. Acting as a district nurse only, she is often consulted by her patients, and can be a valuable worker in any health education scheme. In areas where health visiting is combined with district nursing, she would naturally play her part and have a wide scope for home teaching.

So much for the parents, but little help is organised for young men and women contemplating marriage. The ideal place for them would be the

welfare health centre, where they could attend regular evening classes and join in the social life of the centre. Others may prefer to attend classes in technical schools. These courses would cover a more advanced syllabus than the organised adolescent lectures, and would be directed to meet the actual needs of young parents.

Necessity for Home Help

Mothercraft is directed to the aim of producing the ideal family home, and if the mother is intelligent and well educated, she will make a good effort. But if she has two or three children under five years of age and no domestic help, it is more than likely that she will become unduly strained and over-tired, which will in time undo all the good work previously done.

Her trouble will be not entirely physical but largely mental, because of her inability to have any active outside interests. This can be avoided if a home help service is available, the help coming in one day or two half-days each week, or perhaps one half-day and one evening to look after the children and to give the mother a free period and an opportunity to go out with her husband. An alternative is nursery provision, where a mother could leave her child for a day or a short period each week. It could be arranged for the nursery, under the Local Authority, to have an outside 'floating' nursery-trained staff who could go to the homes when the mother was ill or for any emergency which might arise. The availability of such help would relieve the mother of the anxiety of being dependent on the kindness of neighbours or relations. It is extremely important that we give our mothers this very essential help, since otherwise all the teaching we give may be of little value.

This basic health teaching is education in its most useful and practical form. Why build better homes, if we do not give our children and parents the knowledge of how to enjoy running a good home?

PHYSICAL RECREATION

SEVERAL training camps for men and women leaders of Canvas and Hutment Camps are being arranged by the Central Council of Physical Recreation for the month of May. Each course lasts a week and is open to men and women of 19 years of age or over, with or without previous experience. The fee for any one camp is £2 5s. 0d., and they are being held at Robin Hood's Bay, Gosforth Park (Newcastle-on-Tyne), Bradley Wood (near Huddersfield), Waddow Hall (Clitheroe, Lancs.), Blacklands Farm (East Grinstead), Peterston-super-Ely (Glamorganshire). All these are canvas camps. Camps for women, who wish to train as leaders of small hutment camps for girls, young women and mixed groups will be held at Hill End Camp, Botley, near Oxford. All enquiries about these courses should be addressed to the General Secretary (Miss P. C. Colson), the Central Council of Physical Recreation, 58, Victoria Street, London, S.W.1.

SEX BELIEFS AND BEHAVIOUR

By M. Helen Bennett, *Area Representative, Central Council for Health Education.*

It is interesting to recall that twenty-five years ago, when the first large-scale attempts were made to give group instruction to young adolescents in matters of sex, the objection mainly raised was that such talks put 'ideas' into the heads of nice-minded boys and girls. To-day such criticism as occurs comes from precisely the opposite viewpoint—that the young people already know far too much about sex and will simply ridicule the attempts of older people to advise them.

The Outlook and Background of the Young People

Whilst there are certain dangers inherent in approaching sex teaching for the first time with groups of this age, and it is a pity that it is necessary to do so, it still remains true that the average young person of school-leaving age deeply resents his ignorance of sex matters and does everything possible to make himself better acquainted with the subject, even to the extent of attending lecture courses. It is a commonplace to hear that adolescents in certain districts "won't come near a lecture hall for any purpose whatsoever," and to find them turn up in large numbers for talks on "The Place of Sex in Life"—and the tougher they are the more they turn up, toughness being so often an armour for a high degree of vulnerability. For these would-be sophisticated young people are in fact the children of a thousand fears, whose private hell is paved with old wives' tales and it is the experience of many who have attempted to give sex education that young people are incapable of thinking out their moral problems until they have been reassured and helped on the physiological plane. In fact, the old method of teaching ethical standards without touching upon physiological fact was probably responsible for the fluent lip-service paid to the most exemplary moral standards by groups whose own behaviour was quite clearly not in accordance with these ideals. In a number of groups with different backgrounds where behaviour was recently discussed freely by the young people, it was noticeable that the gap between actual conduct and the standards upheld in discussion was widest amongst those young people who had left school at 14 and who were for the most part in industry. These boys and girls were taken aback, and even shocked, to be asked for reasons for their glibly uttered precepts and it was obvious that they had no personally held beliefs to enable them to bridge the gap between 'parrot' standards and

behaviour. Amongst the better educated young people the reverse appeared. They were highly critical of the codes of sex conduct laid down, as it seemed to them, arbitrarily, by an older generation and, on the whole, their behaviour was more disciplined and less promiscuous. The gap had to some extent been bridged, but at the cost of changing the whole code.

In view of the background of total war against which they have been reared, it is hardly surprising, though depressing enough, to find boys and girls so unwilling to accept any relationship between their present behaviour and their future estate. Nearly all the members of the groups discussing these problems wanted marriage, boys and girls alike, but they tended to consider that the success or failure of the partnership, the happiness or misery of the ensuing family life, would be a matter of good luck or the reverse. Their desires or efforts would count for little "because you can't do anything if the luck's against you." It would appear that although war time needs and disciplines have bred responsibility in the few, they have brought a most unfortunate fatalism to the many, a fatalism which, unless it can be counteracted, will have an adverse effect upon family life in the years ahead.

What Kind of Sex Instruction?

Given boys and girls with these problems, plus perhaps a wretchedly bad home background and illimitable ignorance concerning sex, how far can an older generation give teaching which will be acceptable and helpful? In the first place, we can help to get rid of the mountain of shame and fear under which the young people's whole conception of sex so often lies buried. Without taking extreme views, it is clear that the individual's outlook on this subject has considerable power to make or mar his personality. Almost all young people over the age of ten years have some sex knowledge, often picked up indiscriminately from undesirable sources, and this means that our task is less that of sex education than of sex re-education. First, then, we must clear the young person's mind of the idea that there is anything to be ashamed of in a desire for sex instruction, give him a scientific vocabulary in which the subject can be properly discussed—lack of this is one of the most fertile sources of embarrassment in asking questions—and show him that sex is a principle running throughout the higher forms of life; its development being bound up in nature with a parallel development in parental care and responsibility, and in family life. In the second place, a simple but scientifically correct outline must be given of the male and female sex organs and the way they work, hygiene must be discussed and an effort made to root out the superstitions and old wives' tales, of which an astonishing number are still in circulation to-day. The questions which such a discussion produces are significant of the confusion produced by the usual haphazard methods of acquiring information on this subject.

Ethical Considerations

Finally and most urgently we must point out the relationship between the facts learned and sex behaviour. Certain warnings have to be given if we are to do our job properly, but these negative aspects are the least important. The questions that have to be considered are: "What sort of a life do you want to have? What sort of a crop do you want to raise? Thistles do not produce figs, nor wild oats a happy family life. You must make up your mind about these things, because you are now sowing for the future." It is here that the excellent codes of behaviour repeated parrot-fashion become such a menace, cloaking, as they do, the fact that the individual shirks a personal decision. It must, of course, be admitted that to think for oneself is always hard, exceedingly so when one has left an elementary school some years behind one and is not at home in the field of ideas. But however difficult the task, thought must be stirred and the boy, or girl, helped to an opinion in which he has a real belief about his personal value in the scheme of things—it is pathetically hard to convince him of this—his responsibility for his own behaviour and the goal to which he looks forward.

The instruction above suggested is concerned with facts. Facts about biological development, physiological make-up and social behaviour, and it is considered right by many health and education authorities that the young people should have these facts set before them when they are on the threshold of adult life. Many of us would wish them to have this teaching earlier—first from their parents and then through the normal school channels of education—and the giving of information described above must, of course, be looked upon as a short-term, stop-gap policy to help those to whom other sources are now closed. Our main efforts must be directed, I believe, to helping the boy and girl to think out their attitude to sex in the light of the knowledge we have given them and I believe that our major usefulness will lie in making clear to the young people their need of a satisfying philosophy of life on which to build their future happiness. It is with such guidance that bodies such as the churches are concerned, and factual enlightenment forms an excellent preliminary clearing of the ground for this.

The Crying Need for Example

But given the most correct possible factual knowledge, the noblest conception of Christian marriage, it still remains true that example is better than precept, and it is difficult to see how those young people whose homes are indifferent or worse—and, unfortunately they are many—are to gain an idea of happy marriage unless they are able to see such marriages around them, and it is at this point I believe that much moral teaching is frustrated. In their working hours at the shop or factory, in their leisure time at the

cinema, dance hall, billiard saloon or street corner, the boys and girls mix all the time with others like themselves, of their own age and with the difficulties and outlook similar to their own, and where they can be persuaded to leave the colourful streets for the less exciting club room, we tend to continue this segregation of the young by calling our clubs 'Youth Clubs' and fixing 20 as the highest age of membership. Only at family centres, at present few and far between, and costly to build, is there an opportunity for the adolescent to mix freely with people a little older and more mature than himself and to watch them going through the cycle of courtship, marriage, childbearing, and building up of a happy family life by two people who love one another. No words of ours will awaken his imagination as this will do. Nothing will so strongly reinforce our arguments in favour of a high standard of sex behaviour. I do not know the answer to this problem, but I believe it is a matter to which the health and education authorities, social organisations and most particularly the churches and those who are anxious about the family life of the next generation will have to give their most earnest consideration.

BIOGRAPHICAL NOTES

EDMUND MARTIN, M.D., D.P.H.—Originally a meteorologist and as a medical student held the position of Whitworth Observer in Manchester University. Awarded M.D. with gold medal for work on influenza carried out under a Sir H. Royce Research Fellowship. Now engaged in public health and recently won a Haldane Prize and Silver Medal for an investigation into the causes of child neglect.

F. LE GROS CLARK, M.A. (Oxon).—Secretary to the Children's Nutrition Council. Engaged during war under a Leverhulme Research Grant on study of social aspects of the communal meal schemes. Author of a number of reports and publications on the economic and administrative problems of nutrition in this and other countries.

MRS. A. B. MEERING, S.R.N.—Organiser to the Exhibitions Department of the National Council for Maternity and Child Welfare and Technical Adviser to the National Society of Children's Nurseries.

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AN EXPERIMENT IN TEACHING HUMAN BIOLOGY

By E. O. Cutter, B.Sc., *Director of Education, Luton;* F. Grundy M.D., *Medical Officer of Health, Luton;* M. W. Hardisty, M.Sc., *Biologist to the Public Health Department of Luton.*

Preparing the Way

In September, 1943, the Public Health Committee of the Luton Borough Council organised a Health Education Week which had for its main object to inform the general public about the venereal diseases and associated problems. The fact is mentioned here because the origin of certain unusual developments in health educational policy may be traced to it.

In addition to the customary features of a typical health week—films, exhibitions, posters, public meetings, conferences—discussions relating to the problems of sex education and health teaching in schools were conducted jointly by the Director of Education and the Medical Officer of Health with members of the Education Committee and representative groups of teachers. The occasions were used to emphasise the advantages of a biological approach to sex education and no opportunity was lost of insisting that sex anatomy and physiology should not be dealt with in isolation. A case was stated for the introduction of human biology into the school curriculum; its acceptance in principle by both public health and education committees secured and, as a result of many discussions, the council resolved upon a practical policy whose implementation is the subject matter of this note.

The General Problem

The inclusion of biology in the curriculum of elementary schools needs no justification; its value as a cultural subject is universally recognised. Indeed, since the publication in 1932 of the memorandum "Sciences in Senior Schools," it has been the persistent aim of the Ministry of Education to encourage the inclusion of biology in General Science courses and to reduce the time devoted to the physical sciences and in particular to chemistry.

In many rural areas efforts have been made to develop biology in relation particularly to the life of the countryside and the care of livestock. Biology

teaching is often also associated with gardening instruction and goes under the name of Rural Science, which includes only enough physics and chemistry for an understanding of the relations to life of soil, air and water. Progress in urban schools has been slow—partly, no doubt, because of the greater difficulties in obtaining illustrative material. The difficulties need not, however, be so great as they are sometimes thought to be; for the town has its own biological interests and problems although they may be very different from those of the countryside. A real difficulty probably arises out of the unfamiliarity of the town child with a great variety of living things and his lack of contact with the day to day processes of nature. It may also sometimes be the case that the country teacher is better equipped by experience and interests than his urban cousin, to teach biological subjects. A very real problem in all types of schools is the common lack of a well-equipped room which can be set aside for the teaching of general science and where it is possible to rear, tend and observe a variety of living things.

The problem in Luton was to surmount the difficulties common to most urban areas where few elementary school teachers had more than a casual knowledge of biological subjects.

Features of the Scheme

The agreed objectives of the Public Health and Education Departments were

(*a*) to inaugurate and develop the teaching of biology in the elementary schools of the borough;
(*b*) to extend the scope of the biology courses with the object of implementing health educational policy.

The first is generally accepted educational policy; the second, insofar as it involves collaboration of health and education departments, is a novel departure.

The first step which is, indeed, the central feature of the Luton scheme, was the appointment to the staff of the Public Health Department of a wholetime specialist biologist for the purpose of assisting with the development of a biology syllabus for use in the council's schools. The officer's duties and status were defined in friendly discussion between the Director of Education and the Medical Officer of Health, and it was agreed that he should be placed at the disposal of the Education Department to the extent that his work was connected with teaching in schools.

Next came the preparation of syllabuses. Drafts were prepared in the first place within the Health Department by the biologist working in close contact with specialist medical officers and under the general direction of the Medical Officer of Health. The drafts were then submitted to the Director

of Education, and through him to representative groups of teachers, for criticism and comment.

In this connection it should be said that the intimate co-operation between the two departments implied a proper understanding by each of the functions of the other and the avoidance of improper encroachments. The arrangement has so far worked well and proved of great value to all concerned. Preliminaries over, lecture courses for teachers were arranged to fit them for undertaking biology courses in their own schools. These courses are based on and closely linked with the actual syllabuses which have been prepared for different age groups of school children, and simultaneous experimental courses will be undertaken for each age group in selected schools by the biologist himself. In the light of experience thus gained, provisional syllabuses will be suitably revised and final syllabuses prepared.

Syllabuses

There is, of course, nothing new about the principle of including health teaching and sex education in the school curriculum—or, for that matter, about linking hygiene with general and human biology. What is new is the overt recognition that the Public Health Department can be of great assistance to the teacher in formulating a syllabus and indicating aspects which need special emphasis. As future progress in preventive medicine will probably rely to a much greater extent than hitherto on improved personal habits and the development of a social health conscience, the Public Health Department is quite properly concerned to help schools provide the foundation on which so much rests; and the co-operation of Health and Education Departments seems to us to be a step in the right direction.

The biology syllabus should, it would seem, combine the cultural aims of general biology with the more utilitarian aspects of human biology and health teaching. Both should gain by this association, for biology teaching is fortified by contact with practical affairs and health teaching enriched in the context of general biology.

With these principles in mind the syllabuses have regard to the following points:—

1. That although the primary aim is not to train children in the scientific method, a study of biology has a contribution to make to the development of a scientific attitude towards practical problems. It can do much to dispel an emotional or mystical attitude towards human problems whose solution depends on an objective approach.
2. A knowledge of biological principles helps to mould the conception of man's place in the world of living things and helps to develop a sense of curiosity and wonder which serves to enlarge the field of cultural interests.

3. The significance of man's control over his environment by the application of scientific knowledge can be vividly illustrated by examples of the application of biological principles to human welfare.
4. A background knowledge of biology can do much to improve standards of personal hygiene.
5. A healthy attitude towards sex, parenthood and family life is best achieved in a biological context.

Separate syllabuses have already been prepared for the following groups.

I. Junior Schools (8–10 years) .. .. .. Nature Study
II. Senior Schools (11–13 years) .. .. .. General Biology
III. Senior Schools (13–14 years) .. .. .. Human Biology
IV. Teachers' Courses to provide the elementary school teacher without special experience of biology with sufficient knowledge to undertake courses in his own school department.
V. In addition, an experimental course of 18 lectures and demonstrations for adults has been arranged for selected classes.

It is intended to develop courses suitable for further education and adult education in the light of experience gained. Provisional Specimen Syllabuses are reproduced in outline below

Senior School (11–13) General Biology.

(*a*) *What is Life?*—The characteristics of living organisms. The cell. Living and non-living. Animals and plants. Micro-organisms, bacteria and viruses.

(*b*) *The Bases of Life.*—Air, water and the soil. Interdependence of animal and plant. The sun as the source of life. Carbon and nitrogen cycles. The role of soil, bacteria and fungi. The activities of the green plant, and its mineral requirements.

(*c*) *Patterns of Life.*—Tissues and organs. Fundamental unity of plan in animal organisation. Invertebrates and vertebrates.

(*d*) *The Continuity of Life.*—Asexual and sexual reproduction. Growth and development. Phases in the life history of the individual. Family life and the care of the young.

(*e*) *The History of Life—Evolution.*—Adaptation and natural selection. The story of the rocks. The origin of man.

(*f*) *Life is 'Doing'.*—Movement in animals and plants. The simple reflex. Instinctive and adaptive behaviour. Sense perception in animals. How animals find their way. Social behaviour.

Senior School (13–14) Human Biology.

(*a*) *Man—A Mammal.*—The characteristics of mammals and the position of man. Essential anatomy and physiology.

(*b*) *Man and His Environment.*—The physical environment. Hygiene and dietetics. The living environment. Social environment and the influence of home and family.

(*c*) *Health and Disease.*—Physiological bases of hygiene. The nature of disease. The biology of infection.

Adult Course.

Lecture

I. Introduction.—Language, Meaning and Intelligence.
II. General Biology.
III. Man as an Animal and a Mammal.
IV to VIII. Human Anatomy and Physiology.
IX. Man and His Environment.
X. The Physiological Basis of Hygiene.
XI. Human Diseases and Medical Terminology.
XII. Transmissible and Preventable Diseases.
XIII. Organised Clinical Medicine.
XIV. The Arithmetic of Health and Disease.
XV. Local Government Organisation and the Public Health.
XVI. The Outside World and the Inside World.
XVII. Politics and Health.
XVIII. Philosophy and Health.

Note.—The only feature to which attention need be directed especially is the prominent and early place occupied by cellular physiology and a study of micro-organisms; it is, indeed, intended to approach the subject *via* cellular physiology to a greater extent than is usual. It will be apparent that the adult syllabus attempts to establish a link between biology and the ordinary affairs of individuals and organised human communities.

After the Pioneer Period

Even when sufficient trained teachers are available to undertake the teaching of biology in all the council's schools, it is thought that the Health Department will still have a valuable technical and advisory role to play, although it is taken for granted that, irrespective of its content, teaching in schools is primarily an educational problem. But the teaching of biology involves rather special problems which the Health Department can help to meet. It is intended, for instance, to prepare for use in schools a variety of material, specimens and charts in the Health Department, whose resources are much greater than those of the individual school, and to send them out on demand. It seems likely, also, that for a long time the Health Department will sponsor demonstrations on special subjects, advise on syllabuses and arrange short local refresher courses for teachers. And it may be that biology courses in connection with further education will for a long time best be provided by loaning specialist officers of the health department to the education department for agreed purposes. These developments involve the health department to an extent which may seem to require justification, and it is suggested that in addition to the ill-defined though important benefits to health which might be expected from greater enlightenment, few would be disposed to dismiss lightly the advantages to medicine of an elementary knowledge of organised health services and of a simple medical vocabulary whose lack is at present a common source of embarrassment and an impediment to the formal teaching of adults There is good reason to hope that gaps such as these will be filled by a full implementation of the scheme outlined here.

FILMS ON TUBERCULOSIS

Do you remember the celebrated lines of Lady Bracknell, in Wilde's play? "Was he born in the purple of commerce, or did he rise from the ranks of the aristocracy?" Similar thoughts occur when we consider the films available on tuberculosis. Were they born in the purple of commercial screen stories, or did they rise from the ranks of the superior documentary?

The productions under review all come from the laboratory of Seven League Film Productions Ltd., an enthusiastic group of artists and technicians who are even better known in other spheres of the cinema than they are in health education.

MASS RADIOGRAPHY.* 16 and 35 mm. Sound. 11 minutes, was produced by the National Association for the Prevention of Tuberculosis. It is frankly a propaganda film, of a semi-instructional nature, and is designed solely to popularise miniature radiography. The film describes a factory girl going through the procedure, and it shows how, with the minimum of undressing, and a few minutes spent in writing up record cards, she steps in front of the X-ray machine. In a few seconds, the X-ray photograph is taken, she goes away and, in due course, is informed of the result. The film next describes what goes on behind the scenes: the doctor examining hundreds of miniature X-ray films in a dark room. Each of them is numbered to correspond with the card of the subject, so that there is no danger of confusion. This film is useful to anyone who wants to know from a practical point of view, what mass radiography is, and how it works.

DEFEAT TUBERCULOSIS.† 16 and 35 mm. Sound. 11 minutes, which was produced by the same unit for the Ministry of Information, tells of two sisters, one of whom develops tuberculosis. They are followed through the procedure of diagnosis at the clinic, sanatorium treatment, and after-care. The commentary is spoken by a doctor, and the whole film gives a general picture of what tuberculosis means to the community.

It is generally agreed that treatment, however good, is not enough. After-care and rehabilitation are all-important, and in the autumn of last year, the N.A.P.T. released its new production.

A NEW BEGINNING.* 16 mm. and 35 mm. Sound. 10 minutes.

This is a documentary-cum-interest film. The principal character is the Tuberculosis Officer, who muses over his cases and selects patients at random from his records. The patients appear before us, and we follow them through their career after treatment. They are re-trained for new jobs, manual or clerical, according to their personalities and human interests. Rehabilitation is presented as an art—a difficult clinical and psychological art—not that of making the patient fit the job, but of finding a job which suits the patient.

The three films here described together exemplify diagnosis, general treatment, and after-care. They illustrate several sides of the vast problem of tuberculosis and would make an excellent programme in themselves.

The N.A.P.T. has now under consideration a fourth film which will act as a pendant to these other three, and which will deal with the sanatorium nurse—her personality and her work.—H. W.

* Obtainable from the N.A.P.T., Tavistock House North, London, W.C. 1.
† Obtainable from the Central Film Library, Imperial Institute, London, S.W. 7.

REVIEWS

A Handbook of Social Medicine, by Fred Grundy, M.D., D.P.H. (Gibbs, Bamforth & Co., Luton. 1945. Pp. 172. Fully illustrated. Price 8s. 6d.)

There is no reason why text-books should always be pompous and formal. This book succeeds in conveying exact information and sound common sense in a rather jolly way. Dr. Grundy is often dogmatic, and occasionally his precepts would not win a song of pure consent, but he writes in such a style that the really important things are stamped on the student's memory.

The handbook is designed for midwives, but it should be read and studied by all interested in the health services. It is beautifully produced, and the illustrations are vivid and well chosen. A special word of praise should be reserved for the excellent diagrams.

The question may be raised as to whether the title 'social medicine' is justified in the text. Dr. Grundy has his own answer:—

> "The boundary which separates social from preventive medicine is no better defined than that which separates preventive from curative medicine. The division is one of convenience, and, broadly speaking, rests on this, that whereas preventive medicine is mainly concerned with immediate causes of clinical disease, social medicine studies remoter causes of disorder and impaired vigour. It studies mainly those factors in the physical, industrial, and family environment which influence the incidence and course of diseases or the well-being of large numbers."

If, as one may hope, this useful book is subsequently expanded to meet the fuller needs of medical students and nurses, it should include a chapter on occupational health.—J. M. M.

Health and Social Welfare, 1944-1945. Advisory Editor, The Rt. Hon. Lord Horder. (Todd Publishing Company Ltd. 1944. Pp. 336. Price 21s.)

This comprehensive and useful reference book presents factual and statistical information together with many interesting articles by experienced writers on many points of view connected with health and social welfare. The Editor states that no medical, social or political bias has determined the choice of the contributors to the series of articles dealing with National Health Services.

The book comprises twelve sections: principles of and progress in Public Health, specialised articles, committee reports, health legislation and policy, health and social welfare overseas, official directories, statements on health and social welfare policy, and on policy and work of various interested organisations. There are lists of such organisations, and of books, periodicals and films, statistics and tables dealing with health and social welfare.

Light in weight, with good print and a good lay-out, it is a pity that there is no index, only a table of contents, and that the advertisement section occupies the first rather than the last twenty odd pages. It is also to be regretted that there are several inaccuracies of information and inconsistencies with regard to the style of address of several personalities in the Directory.—P. M. T.

The Venereal Diseases, by James Marshall, M.R.C.S., L.R.C.P. (Macmillan. 1944. Pp. 348. Figs. 105. Coloured plates 8. Price 21s.)

This is an important publication for those for whom it is intended. It is important because, more than ever before, there is now the need for an up-to-date book on the venereal diseases, written expressly for the guidance of the practitioner and of the student in

medicine, as distinct from the specialist in venereology. In *The Venereal Diseases* Dr. Marshall has provided such a book.

It is written in four parts. The first gives much sound advice on gonorrhoea, and emphasises the necessity for taking steps to establish the diagnosis before commencing treatment, and, in treatment, warns against trifling with the patient by the all too common practice of inadequate dosage of sulphonamides. In the second part, on syphilis, the author stresses that most important of all phases of this infection—early syphilis. For example, the reader is made to realise that the primary sore is by no means a 'typical' lesion, to be assessed loosely on clinical grounds, but that the diagnosis rests on laboratory measures, without which any opinion is merely guesswork. There follows a section on other venereal diseases and on other genito-urinary conditions met with in venereology, including non-gonococcal urethritis. The final part gives valuable instruction in various procedures of technique.

There are numerous illustrations, with some in colour, and the author has wisely given prominence to the superficial lesions of syphilis, especially the early ones. Altogether this is a most welcome book. Essentials are not smothered by unnecessary and confusing details, and although a little re-arrangement of some of the material might be advantageous, it is, indeed, a pleasure to read a book written in such plain terms, and with such clarity. —F. J. T. B.

MAN'S MOST DANGEROUS MYTH: THE FALLACY OF RACE, by M. F. Ashley Montagu. (Columbia University Press, Oxford University Press. 1944. Pp. 216. Price 15s. 6d.)

Written with an American public mainly in mind, this penetrating and incisive study of 'race theory' concentrates largely on 'debunking' the myth of Negro inferiority; but its arguments apply with equal force to European conditions where the Pole and the Jew have filled the role of scapegoat. The author shows how so-called 'races' are constantly being altered in genetic structure, and how meaningless the very term 'race' is—but like Huxley and others before him, he is apparently unable to suggest any substitute expression other than the cumbersome 'ethnic group'—is it not time that a suitable word was invented?

The facts arrayed show clearly how, from Tertullian's time, when Christians were thrown to the lions to divert the attention of famine-threatened Romans, minority ethnic or cultural groups have been used in similar fashion. They show, too, that not all obnoxious racial rantings emanate from Germany—America, England and France have contributed their quota. The question of miscegenation is thoroughly considered, and the evidence removes the basis for many rationalisations of prejudices on this matter.

Not content with stating the problem, Dr. Montagu makes suggestions for its solution, and while these are naturally matters of opinion, an opinion based on such deep knowledge is worthy of careful consideration.—C. B.

THE PHYSICAL BASIS OF PERSONALITY, by V. H. Mottram. (Pelican Books, 1944. Pp. 124. Price 9d.)

As might be expected from an author with so long and distinguished a teaching career as Professor Mottram, this new Pelican is marked by a clear and straightforward expository style. The traditional approach to the subject is used, starting from the cell and building up through descriptions of the chromosome ballet (a happy phrase) to Mendelian inheritance. Then follows a good account of the integrative action of the nervous and endocrine systems. The final chapter dealing with metaphysical implications we find a little

less satisfactory, accepting, of course, the much greater difficulty of explaining such concepts to the reader who has no technical background. With a scientifically impersonal examination of the subject, Professor Mottram has successfully explained for the layman the physical determination of personality. —W. P. K.

RE-EDUCATING SCOTLAND: Edited by Naomi Mitchison, Robert Britton and George Kilgour (Scoop Books Limited, Glasgow, for Scottish Convention, 113 West Regent Street, Glasgow, C.2. Pp. 48. Price 1s. 6d.)

Scottish Convention, an organisation which seeks to supply a focus for Scottish opinion in the absence of any official body for that purpose, here presents its findings on the present state of Scottish Education and its recommendations for the future. It has some severe things to say about things as they are, particularly on the narrow and unimaginative handling of Secondary Schools. The pamphlet is vigorously, though a little diffusely, written, and should interest, provoke and stimulate Scottish readers.—I. M. K.

SHORT NOTICES

DRAFT STATUTORY RULES AND ORDERS, 1944. Education, England and Wales, Regulations Prescribing Standards for School Premises, 1944. (H.M. Stationery Office. Pp. 24. Price 6d.)

MEMORANDUM ON THE DRAFT BUILDING REGULATIONS. (H.M. Stationery Office. Pp. 25. Price 6d.)

These publications embody a most important administrative document.

The regulations cover a wide range (school sites and playgrounds, playing fields and swimming, lay-out, planning and construction, accommodation, cloakrooms, changing rooms and lavatories, sanitary offices, staff rooms, storage, medical rooms, drying facilities, staircases and corridors, lighting, heating, ventilation and windows, water supply and drainage, and finally boarding accommodation); but one would have liked to have seen reference to insistence on the individual towel, precautions for storing concentrated acids and poisons and good blackboard illumination.

Many of these regulations will be useless in themselves unless the adult community in charge bears the responsibility for implementing them at the start and from day to day.—P. M. T.

OUR CONCERN—EVERY CHILD, by Emma O. Lundberg. (Children's Bureau of the U.S. Department of Labour, Washington, D.C. Pp. 84. Price 15 cents.)

Intended as a "guide for the study of State and community resources and action needed to safeguard childhood and provide opportunities for youth," this booklet is a very mine of valuable suggestions. We could do with something similar in this country.

INCOME AND FOOD EXPENDITURE OF TUBERCULOUS HOUSEHOLDS IN WARTIME. (Report of Joint Committee of National Association for the Prevention of Tuberculosis and the Committee for the Study of Social Medicine, Tavistock House, Tavistock Square, W.C.1. Pp. 48. Price 3s. or 75 cents.)

A valuable report, with a wealth of useful statistics. Outstanding among the findings are that 31 per cent of the households cannot afford adequate diet and that 70 per cent of these substandard households could have reached the standard of diet with the aid of the new financial allowance payable under Memo. 266/T. It is recommended that such allowances be payable for *all* notified cases of tuberculosis, that they should be increased in certain cases, and that schemes for re-employment and rehabilitation of patients should be extended as soon as possible.